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Sketches of Dental Hist.

SKETCHES FROM DENTAL HISTORY

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Sketches from Dental History

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Section I

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Annex

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IT is a peculiar fact—and one to be regretted—that so little attention has been devoted to the History of Dentistry. Certainly, it deserves and demands more space than can be given in this little booklet. Dentistry as a Profession has made even more rapid progress than her sister, Medicine, and the achievements of its founders and exponents deserve more than passing mention.

With complete realization of these facts and with a desire to recognize the right of every dentist to receive something different and more valuable than the ordinary prescription blanks, appointment cards, etc., etc., usually presented to the dentist by the manufacturer of some preparation suited for his use, The Palisade Manufacturing Co., Makers of Borolyptol, take pleasure in dedicating and presenting "Sketches from Dental History" to the dentists of America.

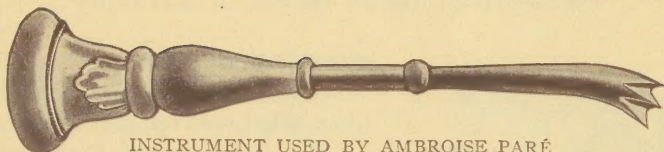
Credit is hereby fully given, and acknowledgement made, of indebtedness to the editors and publishers of "History of Dentistry," by Thorpe, Koch, Gureni, and to numerous other dental articles and publications.

THE PALISADE MANUFACTURING CO.

Yonkers, N. Y.



ST. APOLLONIA
The Patron Saint of Dentistry



INSTRUMENT USED BY AMBROISE PARÉ



WHOEVER is curious or interested enough to seek in musty tomes of History the beginning of what are recognized today as the professions, must realize that Dentistry came into being as soon as primitive man first had his attention directed to his teeth.

In determining the human character of prehistoric skulls found during excavating, the teeth are relied upon to furnish diagnostic evidence. There is a close resemblance between human teeth and those of the monkey, but a marked difference in the case of the canine and the first pre-molar teeth.

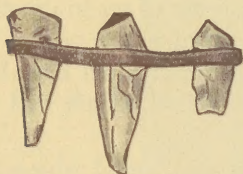
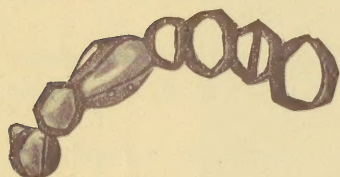
Teeth found in prehistoric skulls do not as a rule show evidence of caries, and if it be present at all it is an evidence of considerable age. Signs of wear and tear are common.

In the province of Esmeraldas in Ecuador, S. A., a number of skulls of Indians—who existed before the Incas—have been found, bearing teeth that show evidence of a high degree of art in prosthetic dentistry. Such teeth had been filled with cement or gold. Such filling was inside the tooth, showing that the cavity had been bored out with a tool. Several teeth were also found which had been fastened together with gold bands.

According to Wilkinson, mummies have been found whose teeth had been filled with gold, but no specimen of such early dental filling on the part of the Egyptians is in existence. The earliest known artificial denture is, however, evidently of Egyptian origin, but in this case, the artificial teeth were evidently inserted for cosmetic effect and were not intended as an aid to mastication.

The first allusion to a dental operation other than extraction, is found in an account by Archigenes of Rome, who advocated the trephining of a tooth that ached without there being evidence of caries. His idea was, that the pain was caused by morbid material in the interior of the tooth, which by this means could be evacuated.

Like Medicine, Dentistry was at first practiced by the priesthood, then became the plaything of the Quack and Charlatan, then was considered as a trade, to undergo evolution into what is today



ETRUSCAN DENTISTRY

recognized as a Science and an Art, than which there is none higher or more worthy of respect.

The beginning of Dentistry is shrouded in the mists of antiquity.

In China, twenty-seven centuries before the Christian Era, the founder of Chinese medicine, the Emperor Howang-ty, wrote a treatise upon medicine, which devoted two chapters to dental subjects. The Chinese recognized nine kinds of toothache! Medicine for the relief of this was either inserted into the ear or the nostril! A favorite prescription was:

"Roast a bit of garlic and crush it between the teeth—mix with chopped horseradish seeds—make into a paste with human milk—form pills and introduce one into the nostril on the opposite side to where the pain is felt"!

It was also taught that tooth decay was caused by worms in the teeth.

In Egypt, Dentistry was practiced by the priests. The Papyrus Ebers, which is claimed to date from the 4th

Dynasty (3427 B. C.), contains several references to the care of the teeth and a number of prescriptions for toothache and gum-boil. One of these called for equal parts of a powder made from the fruit of the dum-palm, green lead and honey.

Herodotus (500 B. C.) records in his history that dental art had made great progress and was practiced by specialists.

"Thus Egypt is quite full of doctors—those for the eyes, those for the head, some for the teeth, others for the belly, or for occult maladies."

Egypt was the seat of culture and of learning, the loadstone that drew students from other lands in search of knowledge and skill.

Hither came the Phoenicians from the busy cities of Tyre and Sidon, and carried home with them newly acquired knowledge of dentistry, evidence of which has been discovered centuries later.

The teeth have also been artificially modified for cosmetic, religious or other reasons. Certain tribes of India separate the permanent teeth with a file, others bring all the teeth to a uniform level—in some cases, as in Sumatra, almost even with the gums. Some African tribes file the teeth to a sharp point. The married women of Sumatra, Japan and the Maria Islands and the maidens of Java dye the teeth black.

In Java and Macassar, artificial teeth of gold or silver have long been known and a custom exists of covering certain teeth with gold plate to contrast with those dyed black.

The natives of the Sandwich Islands used to knock out their front teeth as a sacrifice to their God, Etoa, and the aborigines of New South Wales and certain tribes in Peru had their front teeth knocked out with stones on arriving at manhood.

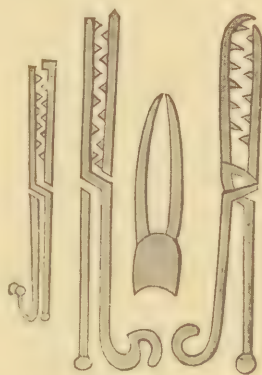
It is worthy of remark that neither the Bible nor the Talmud make any mention of dental medicine or surgery, although frequent references appear to the teeth.

It is probable that much dental literature was collected in the great library at Alexandria. But the Saracens invaded and subjugated Egypt in the 7th century and as a crowning piece of infamy devoted six months to destroying the books in the greatest library in the world.

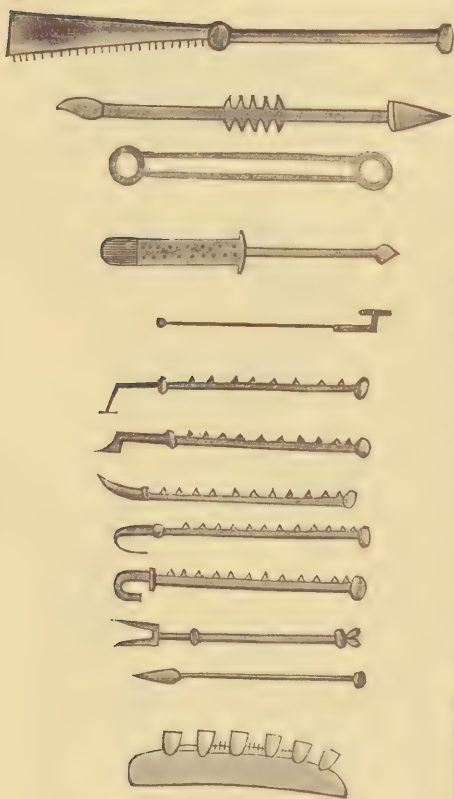
Famous Arabian physicians also possessed considerable knowledge of dentistry.



PHOENICIAN DENTISTRY



ARABIAN DENTAL INSTRUMENTS



PRIMITIVE DENTAL INSTRUMENTS

Rhazes advised the filling of carious teeth with a "cement" composed of mastic and honey.

Ali Abbas, for the relief of toothache, applied to the cavity of the tooth one end of a small metallic tube, into which were introduced red hot needles and allowed to cool!

Albucasis wrote at length upon dental subjects and described a large number of dental

instruments. He gave directions for cleaning and scaling the teeth with a set of some fourteen instruments, mentioned the use of gold and silver for ligating the teeth and advised the replanting of teeth that had been lost by injury.

Avicenna of Persia (1077) was known as "the second Galen"—also as the "Prince of Doctors." He advised that teeth that were too long should be filed down, and recommended that teeth be loosened instead of extracted, claiming that they would be the better for "a good shaking."

The Crusades served to send back to the western part of Europe considerable knowledge of the Arts and Sciences, among which dentistry had some place.



GALEN

Born at Pergamus, 130 A. D. A famous writer in medicine and dentistry

The Greeks succeeded the Egyptians as conservers and developers of learning and especially in the art of healing.

Askelapios and Hippocrates devoted some space in their medical treatises and teaching to dental subjects. Aristotle also wrote extensively of the teeth and their diseases.

Prosthetic dentistry seems to have been practiced by the Etruscans or Foschi who flourished 753 B. C. They were skilled workers in gold and some of the dental work found in their tombs is very interesting.

The Romans conquered Greece in 146

B. C. and many Greek physicians went to Rome after the conquest.

Ancient specimens of crown and bridge work have been found while excavating Roman ruins.

Celsus, of a distinguished patrician family, wrote extensively upon dental subjects. So did Pliny, and even the poet Martial refers to the teeth in his satires. Pliny stated that by washing out the mouth three times a year with the blood of a tortoise, one could prevent being afflicted with the toothache.

Celsus gives a prescription for producing sleep in persons afflicted with toothache. It contained acorns, castoreum, cinnamon, poppy, mandrake and pepper.

The tooth powder used by the famous—and infamous—Messalina, wife of the Emperor Claudius, was composed of calcined stag's horn, mastic of Chios and sal ammoniac.



THE SURGEON DENTIST

From a painting by Lucas van Leyden (1494-1533)



FALLOPIUS
 A celebrated anatomist

In the Roman Law of the XII Tables, it was decreed that whoever caused the tooth of a free man to fall should pay a fine of 300 as (\$30) and for that of a slave 150 as (\$15).

Galen was a famous medical man of Rome and the author of many works in medicine. He was the first to declare that the teeth had nerves. In painful dentition Galen advised rubbing the gums with the milk of a bitch or the brain of a hare.

Marcellus gives as a remedy for toothache:

"When one is in the open country, catch a frog, take it by the head and open its mouth, spit therein, beg the animal to take the toothache, put it on the ground and let it go!"

Martial, the writer and satirist, referred in several of his epigrams to the teeth, e. g., he makes a tooth powder say to one who has lost her natural teeth,—

"I am not accustomed to clean bought teeth."

Another carries the pungent rebuke,—

"Without shame dost thou employ lots of hair and teeth that have been bought."

And again,—

"She lays aside her teeth at night just as she does her silken robes."



HENRY VIII AND THE GUILD OF BARBER-SURGEONS OF LONDON (CHARTERED 1541)

By Hans Holbein the Younger



VESALIUS
An eminent anatomist

After the decline and fall of the Roman Empire, knowledge and study of arts and sciences languished. It was a period of dark ages—the darkness before the dawn.

In the middle ages several names stand out brightly on the scroll of the history of dentistry.

Guy de Chauliac was a celebrated surgeon, who wrote much about the teeth and described instruments to be used by the dental surgeon. He speaks of dipping a new sponge in the juices of opium, morel, hyoscyamus, mandrake, ivy, hemlock and lettuce, allowing it to dry in the sun and

when desirous of putting the patient in shape to endure operation without pain, the sponge was to be wet in warm water and the patient allowed to inhale the fumes until he went to sleep.

Giovani of Arcola, professor at the University of Bologne and later Padua, about 1460, wrote of the use of gold leaf for filling carious teeth and gave drawings of three dental instruments—the pelican, dental forceps and stork's bill.

Walter Hermann Ryff, about 1544, published a monograph in which dental diseases were treated independently of medicine and surgery. It was written in German, a living tongue, instead of the customary Latin.

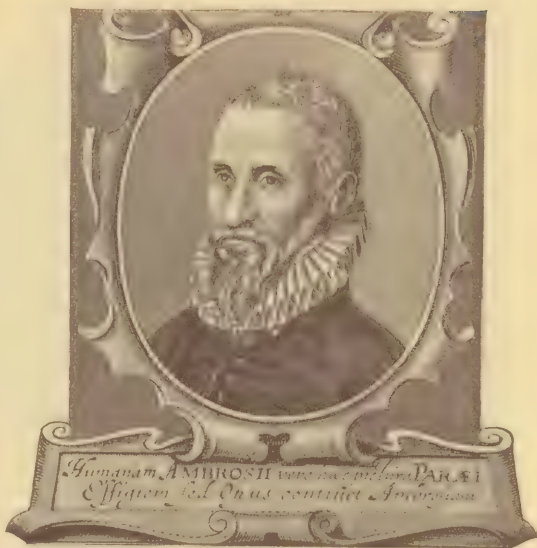
In the middle ages, the extraction of one or more teeth was inflicted as the penalty for having eaten flesh during Lent, on those convicted of a felony, or for refusing to pay taxes!

But it was to Vesalius, Eustachius and Falopius, eminent anatomists, that dentistry owes the first impetus toward attaining a scien-



tific basis. The first was brave enough to challenge the teachings of Galen, whose ideas had persisted for centuries without denial.

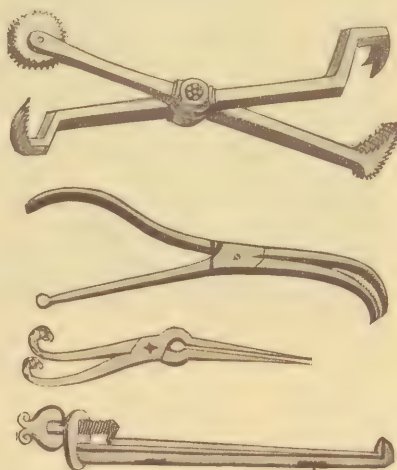
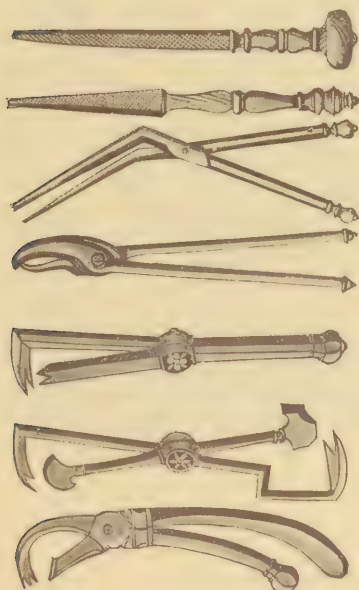
Jaques Houllier (1498-1562) seems to have been the first to cast a doubt upon the idea that worms



AMBROISE PARÉ
The father of modern surgery

were found in the teeth. But superstition was hard to stamp out.

Apropos of the belief that dental caries was caused by



INSTRUMENTS USED BY AMBROISE PARÉ



EUSTACHIUS
An eminent anatomist

John Gaddesden, an Englishman of Oxford, wrote a book early in the 14th century in which he advised powdered cow's dung or the fat of a green frog to loosen the teeth and cause them to fall out. He also declared that the brain of a hare would cause new teeth to grow after they had been lost.

Ambrose Paré, born in 1517, the father of modern Surgery, contributed much to the art of dentistry. He described many dental instruments and advocated tooth transplantation or the replantation of artificial teeth. He advised the use of palatal obturators and dwelt considerably on the treatment of fractures of the lower jaw. He seems to have realized the necessity for divorcing surgery, general or dental, from its association with barbers and quacks, and to have done much to bring this about.

Paré was popular both with the common soldiers and with Royalty, being chief surgeon at the Royal Court of Charles IX, Henry III and

"small white worms," the Babylonians used an incantation, thrice repeated to exorcise these agents:—

"After Am had created the
Heavens

The Heavens created the
Earth,

The Earth created the Rivers,

The Rivers created the Canals,

The Canals created the
Marshes,

The Marshes created the
Worm.

Came the Worm and wept
before Shamask,

Before Ea came her tears:

'What wilt thou give me for
my food?

What wilt thou give me to
devour?'

I will give thee dried bone
And scented wood.

Let me drink among the teeth

And set me on the gums,

That I may devour the blood
of the teeth

And of their gums destroy
the strength;

Then shall I hold the bolt of
the door."



THE DENTIST
By Gerard Dou (1630-1680)



THE DENTIST ON HORSEBACK
By Johannes Lingelbach (1625-1687)



ANTONIO CAMPANI
An early Florentine dentist

examination that had to be taken by those desirous of practicing dentistry as far back as 1700. He wrote at length on caries, denying that it is due to worms, described the excavating and filling of cavities with lead, tin and gold, methods for correcting irregularity, the making and insertion of artificial teeth, and the use of palatal obturators. Fouchard made his first full set of artificial teeth in 1737, and in 1746 made a double set for Aaron Burr, who wore them for years.

Giovanni of Vigo, who was a surgeon to the Papal Court, also advised the cleaning out of carious teeth and the filling of the cavities with thin beaten gold.

Anton Van Loewenhoeck (1632-1723) was the first maker of powerful microscopes by means of which he pointed out the tubular structure of dentine. He also in 1683 described at length a form of micro-organism found in tartar.

Nathaniel Highmore described the maxillary sinus that bears his name, but it was not until 50 years later that another Englishman, William Cowper, formulated a successful treatment for its diseases.

Cornelius van Solingen of Holland, in the 18th Century, was the first to use the emery wheel and small burrs to level and trephine the teeth.



THE DENTIST
By Rombouts (1660-1690)



M. DUBOIS DECHÉMANT
Inventor of mineral teeth

Philip Pfaff described in 1756 the construction of artificial teeth, fashioned out of ivory, hippopotamus and walrus tusks, silver, mother of pearl and enamelled copper.

The clumsy "Pelican" or rude forceps for the extraction of teeth was modified in England to what was known as the tooth key or turn key. This was perfected by one John Aitken in 1771. This instrument was devised to exert a lateral traction, by which the tooth could be dragged or turned out by its ac-

tion and called for the use of less force, so that it was claimed that injuries to the jaws were largely prevented.

The old time Japanese dentist had no occasion to use forceps. He learned to extract teeth by first being given a board, into which a peg had been driven, which he learned to extract with the thumb and index finger only.

These pegs were of different sizes and shapes, and were driven into the board tighter and tighter,



JOHANN JACOB JOSEPH SERRE
A Belgian (1759-1830), whose remarkable practical and scientific activity in dental operations was chiefly exercised in Vienna and Berlin



PIERRE FOUCHARD

French dentist, father of modern scientific dentistry

until he who could extract them deftly was able also to pull teeth in like manner.

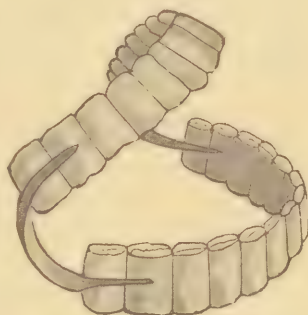
John Hunter had much to do with the development of dentistry in the 18th century.

In 1745 the Company of Barbers and Surgeons, which had developed from the Company of Barber Surgeons incorporated by King Edward IV in 1511, was split and the barber was only permitted to extract teeth.

Philip Pfaff, dentist to Frederick the Great, was the first to make use of plaster moulds. Purmann, another German, employed wax moulds for the same purpose.

A French Chemist, M. Duchateau, is said to have consulted M. Guerhard of Paris to see if a porcelain set of teeth could be made to replace those of ivory, which easily became discolored.

M. Dubois Chemant, a Parisian Dentist, was consulted and solved the difficulty. Chemant kept on experimenting until in 1788 he produced a superior article. A law-suit followed—which resulted in a verdict being given that Chemant was entitled to the invention.



AARON BURR'S ARTIFICIAL
TEETH

Made by Fouchard, worn 26 years (1746)



JOHN HUNTER

Contributed most valuable work in dental anatomy

Thomas Birdmore was the first dentist to receive the appointment of Dentist to King George III of England.

It was his student, Robert Wooffendale, who went to America in 1766 and was the pioneer dentist in America, the new land across the sea, which was destined to have so much to do with the History of Dentistry.

As a matter of fact, America has contributed so richly and extensively to Dentistry as a science and an art, that lack

of space prevents even a brief résumé of these accomplishments.

How the first dental college and the first dental journal were established, how the prosthetic branch of the art has been developed and perfected, how it was a dentist who first gave a practical demonstration of anæsthesia, and how American dentists have made their skill and ability known throughout the world, must be left for future description in Part II of the present series.



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